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Dated: December 24, 2003 Signature:

(Lawrence E. Russ)

Docket No.: EMCORE 3.0-081  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Guo et al.

Application No.: 10/721,488

Group Art Unit: N/A

Filed: November 25, 2003

Examiner: Not Yet Assigned

For: GALLIUM NITRIDE-BASED DEVICES AND  
MANUFACTURING PROCESS

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

### INFORMATION DISCLOSURE STATEMENT

Dear Sir:

It is respectfully requested that the references listed on the enclosed form be made of record and considered with respect to the above-referenced U.S. patent application. A copy of each non-U.S. patent reference is enclosed. Submission of the present Information Disclosure Statement should not be taken as an admission that the cited references are legally available prior art or that the same are pertinent or material.

In the event that any fee is due in connection with the present Information Disclosure Statement, the Commissioner is hereby authorized to charge the same to our Deposit Account No. 12-1095.

Dated: December 24, 2003

Respectfully submitted,

By:

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Registration No.: 35,342

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**Complete if Known**

Application Number	10/721,488		
Filing Date	November 25, 2003		
First Named Inventor	Shiping Guo		
Art Unit	N/A		
Examiner Name	Not Yet Assigned		
Sheet	1 of 2	Attorney Docket Number	EMCORE 3.0-081

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
AA	US-2003/0015708-A1	01-23-2003	Parikh, et al.		
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
BA	-WO 02/48434 A2		06-20-2002	Nitronex Corporation		
BB	-DE 4210402		10-01-1992	Koichi		
BC	-EP 0 380 340		04-29-1992	Cree Research Inc.		

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
CA	Brown, et al., "AlGaN/GaN HFETs Fabricated on 100-mm GaN on Silicon (111) Substrates," Solid-State Electronics, Vol. 46, pp. 1535-1539 (2002)		
CB	Feltin, et al., "Stress Control in GaN Grown on Silicon (111) by Metalorganic Vapor Phase Epitaxy," Applied Physics Letters, Vol. 79, No. 20, pp. 3230-3232 (November 12, 2001)		
CC	Marchand, et al., "Metalorganic Chemical Vapor Deposition of GaN on Si (111): Stress Control and Application to Field-Effect Transistors," Journal of Applied Physics, Vol. 89, No. 12, pp. 7846-7851 (June 15, 2001)		
CD	Armitage, et al., "Lattice-Matched HfN Buffer Layers for Epitaxy of GaN on Si," Applied		

Examiner Signature	Date Considered
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PTO/SB/08a/b (08-03)

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(Use as many sheets as necessary)

				<b>Complete if Known</b>	
				Application Number	10/721,488
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				First Named Inventor	Shiping Guo
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CE	Physics Letters, Vol. 81, No. 8, pp. 1450-1452 (August 15, 2002)
CF	Manohar, et al., "Characteristics of Microwave Power GaN HEMTs on 4-inch Si Wafers," 2002 IEEE International Microwave Symposium, Seattle WA
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CI	Poschenrieder, et al., "Bright Blue to Orange Photoluminescence Emission from High-Quality InGaN/GaN Multiple-Quantum-Wells on Si(111) Substrates," Applied Physics Letters, Vol. 81, No. 9, pp. 1591-1593 (August 26, 2002)
CJ	Jang, et al., "Characteristics of GaN/Si(111) Epitaxy Grown Using Al <sub>0.1</sub> Ga <sub>0.9</sub> N/AlN Composite Nucleation Layers Having Different Thicknesses of AlN," Journal of Crystal Growth, Vol. 241, pp. 289-296 (2002)
CK	Wan, et al., "Growth of Crack-Free Hexagonal GaN Films on Si(100)," Applied Physics Letters, Vol. 79, No. 10, pp. 1459-1461 (September 3, 2001)
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	Dadgar, et al., "Thick, Crack-Free Blue Light-Emitting Diodes on Si(111) Using Low-Temperature AlN Interlayers and <i>In Situ</i> Si <sub>x</sub> N <sub>y</sub> Masking," Applied Physics Letters, Vol. 80, No. 20, pp. 3670-3672 (May 20, 2002)

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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